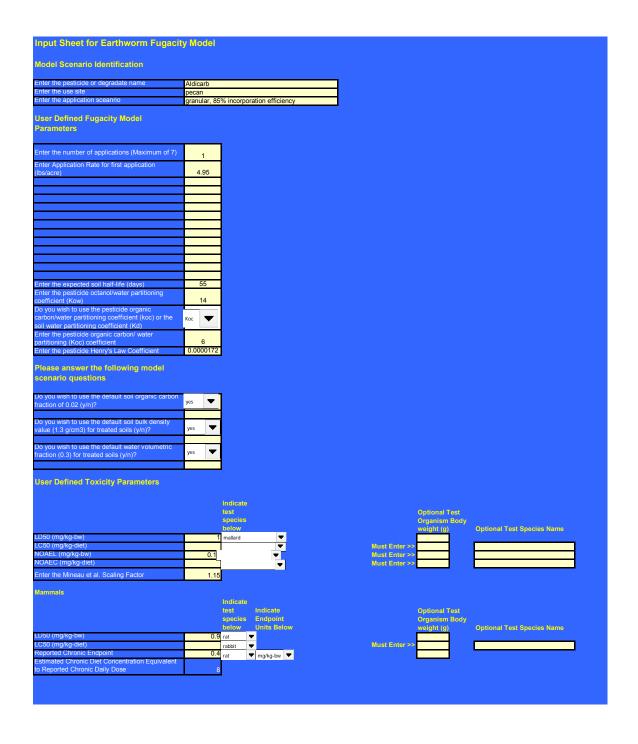
Chemical Name	User Defined INPUTS		
Number of applications Application Rate for second application (Ibs/acre) 2.1 Application Rate for first application (Ibs/acre) 0.525 Application Rate for fourth application (Ibs/acre) 0.525 Application Rate for firth application (Ibs/acre) 0.525 Application Rate for fifth application (Ibs/acre) 0.525 Application Rate for sixth application (Ibs/acre) 0.525 Application (Ib			
Application Rate for first application (bis/acre)	Application scenario	granular, 85% incorporation efficiency	
Application Rate for second application (Its/sacre) 0.525 Application (Its/sacre) 0.525 Application Rate for third application (Its/sacre) 0.525 Application Rate for forth application (Its/sacre) 0.525 Application Rate for fifth application (Its/sacre) 0.525 Application Rate for fifth application (Its/sacre) 0.525 Application Rate for sixth application (Its/sacre) 0.525 Application Rate for sixth application (Its/sacre) 0.525 Application Rate for sixth application (Its/sacre) 0.525 Application Rate for seventh application (Its/sacre) 0.525 Application (Its/sacre)		3	
Application Rate for third application (bb/sacre) 0.525 Application Rate for fourth application (bb/sacre) 0.525 Application Rate for fifth application (bb/sacre) 0.525 Application Rate for fifth application (bb/sacre) 0.525 Application Rate for sixth application (bb/sacre) 0.525 Application Rate for sixth application (bb/sacre) 0.525 Application Rate for sixth application (bb/sacre) 0.525 Application Rate for seventh application (bb/sacre) 0.525 Application Rate for seventh application (bb/sacre) 0.525 Application (days) 3.00 Application (days) 3.00 Application (days) 4.00 Application Interval between fifth and sixth application (days) 4.00 Application Interval between fifth and sixth application (days) 4.00 Application Interval between sixth and seventh applications (days) 5.50 Application Interval between sixth and seventh applications (days) 4.00 Application Interval between sixth and seventh applications (days) 4.00 Application Interval between sixth and seventh applications (days) 4.00 Application Interval between sixth and seventh applications (days) 5.50 Application Interval between sixth and seventh applications (days) 5.50 Application Interval between sixth and seventh applications (days) 6.00 Application Interval between sixth and seventh applications (days) 6.00 Application Interval between sixth and seventh applications (days) 6.00 Application Interval between sixth and seventh applications (days) 6.00 Application Interval between sixth and seventh applications (days) 6.00 Application Interval between sixth and seventh applications (days) 6.00 Application Interval between sixth and seventh applications (days) 6.00 Application Interval between sixth and seventh applications (days) 6.00 Application Interval between sixth and seventh		2.1	
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Applications (days) 0 0 0 0 0 0 0 0 0		0	
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Seventh applications (days) 0		Ü	
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Zwater1/H5.81E+04Csoil water is the concentration of chemical in soil water2.647015Csoil water= Csoil/Kbw2.647015Kbw is the bulk soil-to-water partitioning coefficient =(psoil)(Kd)+θ + (ε-θ)(Kaw)0.456KawKaw is the air-to-water partitioning coefficient = H/RT Concentration in whole earthworm mg/kg = [(Csoil)(Zearthworm/Zsoil)]+[(Csoil6.94E-09	Zsoil		9.07E+03
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Kaw Kaw is the air-to-water partitioning coefficient = H/RT 6.94E-09 Concentration in whole earthworm mg/kg = [(Csoil)(Zearthworm/Zsoil)]+[(Csoil	Kbw		0.456
Concentration in whole earthworm mg/kg = [(Csoil)(Zearthworm/Zsoil)]+[(Csoil		. , , , , ,	
		Concentration in whole earthworm mg/kg =	
	C earthworm		1.453822

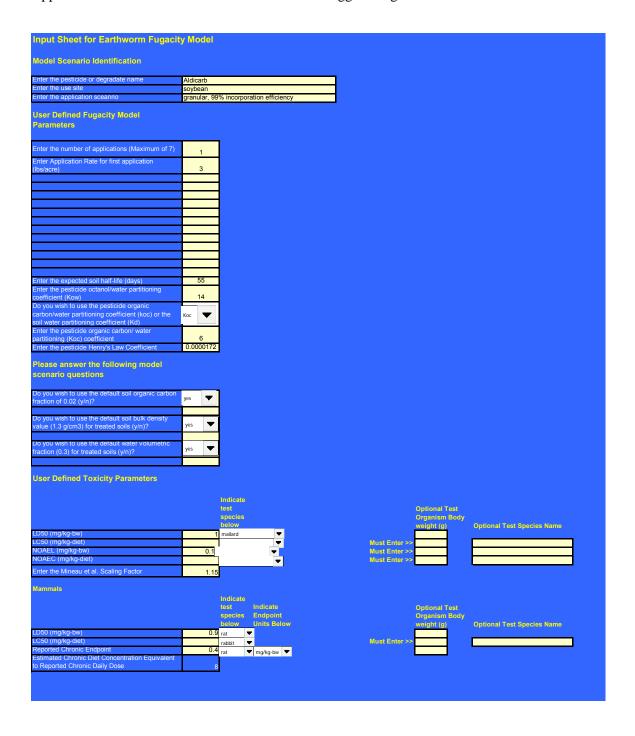
User Defined INPUTS		
Chemical Name Use Site	Aldicarb Dry beans	
Application scenario	granular, 99% incorporation efficiency	
Number of applications	1	
Application Rate for first application		
(lbs/acre)	1.05	
Application Rate for second application (lbs/acre)	0	
Application Rate for third application		
(lbs/acre)	0	
Application Rate for fourth application		
(lbs/acre)	0	
Application Rate for fifth application (lbs/acre)	0	
Application Rate for sixth application		
(lbs/acre)	0	
Application Rate for seventh application		
(lbs/acre) Application interval between first and	0	
second applications (days)	0	
Application interval between second and		
third applications (days)	0	
Application interval between third and	0	
fourth applications (days) Application interval between fourth and fifth		
applications (days)	0	
Application interval between fifth and sixth		
applications (days)	0	
Application interval between sixth and seventh applications (days)	0	
Expected soil half-life (days)	55	
Pesticide octanol/water partitioning		
coefficient (Kow)	14	
Pesticide organic carbon/water partitioning	6	
coefficient (Koc) Pesticide Henry's Law coefficient	0.0000172	
Assumed Soil organic carbon fraction	0.02	
Assumed Soil Density (g/cm³)	1.3	
Soil water volumetric fraction	0.3	
Constants		
R T	Universal gas constant System teperature assumed to be 298 degrees K	8.314 298
lipid	fraction of lipid in organism 0.01 (Cobb et al. 1995)	0.01
pearthworm	earthworm density assumed 1g/cm3	1
MODEL OUTPUTS		
Cail Dammadation note as notent (la)	calculated assuming first order kinetics with following	0.040000
Soil Degradation rate constant (k)	equation $k = \ln(0.5)/((half life)(-1))$	0.012603
Soil pore space volumetric fraction	=1-(bulk density/partical densitiy of 2.65 mineral soils)	0.509434
	, , , , , , , , , , , , , , , , , , , ,	
	If a Kd was selected on input sheet, that input is	
Kd	referenced here, if Koc was selected then Kd=(chemical Koc)(0.02 assumed fraction of soil organic carbon)'	0.12
114	Csoil is the maximum concentration (mg/kg) of chemical	0.12
	in bulk soil. This is a chemical concentration averaged	
Maximum Concentration in soil (Csoil	over a 15 cm soil depth was used to reflect a	
mg/kg)	concentration across the earthworm occupied area of soil.	0.603519
	Zearthworm is the fugacity capacity of chemical in	
Zearthworm	earthworms =(lipid)(Kow)(pearthworm)/H	8.14E+03
7:1	Zsoil is the fugacity capacity of chemical in soil =	0.075+02
Zsoil	(Kd)(psoil)/H Zwater is the fugacity capacity of chemical in water =	9.07E+03
Zwater	1/H	5.81E+04
	Csoil water is the concentration of chemical in soil water	
Csoil water	= Csoil/Kbw	1.323508
Kbw	Kbw is the bulk soil-to-water partitioning coefficient = $(psoil)(Kd)+\theta+(ε-\theta)(Kaw)$	0.456
Kaw	Kaw is the air-to-water partitioning coefficient = H/RT	6.94E-09
	Concentration in whole earthworm mg/kg =	
C conthus and	[(Csoil)(Zearthworm/Zsoil)]+[(Csoil	0.706044
C earthworm	water)(Zearthworm/Zwater)]	0.726911

Input Sheet for Earthworm Fugacit	y Model		
Model Scenario Identification			
Enter the pesticide or degradate name	Aldicarb		
Enter the use site Enter the application sceanrio	peanuts granular, 85% incorporation efficiency		
User Defined Fugacity Model Parameters			
Enter the number of applications (Maximum of 7) Enter Application Rate for first application (lbs/acre)	3		
Enter the expected soil half-life (days) Enter the pesticide octanol/water partitioning coefficient (Kow) Do you wish to use the pesticide organic carbon/water partitioning coefficient (koc) or the	55 14		
soil water partitioning coefficient (Kd) Enter the pesticide organic carbon/ water partitioning (Koc) coefficient Enter the pesticide Henry's Law Coefficient	6		
Please answer the following model scenario questions			
Do you wish to use the default soil organic carbon fraction of 0.02 (y/n)?	yes 🔻		
Do you wish to use the default soil bulk density value (1.3 g/cm3) for treated soils (y/n)?	yes 🔻		
Do you wish to use the default water volumetric fraction (0.3) for treated soils (y/n)?	yes 🔻		
User Defined Toxicity Parameters			
	Indicate test species below	Optional Test Organism Body weight (g)	Optional Test Species Name
LD50 (mg/kg-bw) LC50 (mg/kg-diet)	1 mallard ▼	Must Enter >>	
NOAEL (mg/kg-bw)	0.1	Must Enter >>	
NOAEC (mg/kg-diet) Enter the Mineau et al. Scaling Factor	▼	Must Enter >>	
	1.15		
Mammals	Indicate		
	test Indicate species Endpoint	Optional Test Organism Body	
LD50 (mg/kg-bw)	below Units Below 0.9 rat ▼	weight (g)	Optional Test Species Name
LC50 (mg/kg-diet) Reported Chronic Endpoint	rabbit v	Must Enter >>	
Estimated Chronic Diet Concentration Equivalent	0.4 rat ▼ mg/kg-bw ▼		
to Reported Chronic Daily Dose	8		

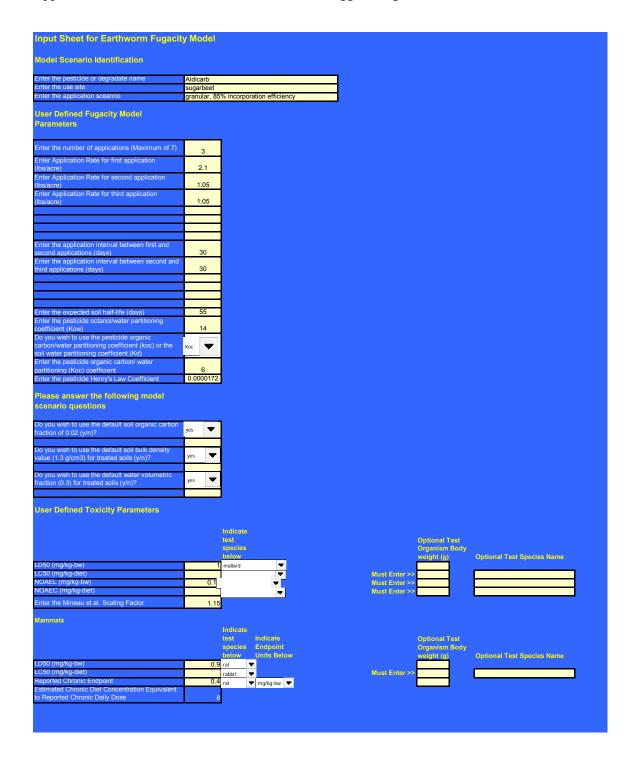
User Defined INPUTS		
Chemical Name	Aldicarb	
Use Site	peanuts	
Application scenario	granular, 85% incorporation efficiency	
Number of applications Application Rate for first application	ı	
(lbs/acre)	3	
Application Rate for second application		
(lbs/acre)	0	
Application Rate for third application		
(lbs/acre)	0	
Application Rate for fourth application (lbs/acre)	0	
Application Rate for fifth application		
(lbs/acre)	0	
Application Rate for sixth application		
(lbs/acre)	0	
Application Rate for seventh application		
(lbs/acre)	0	
Application interval between first and second applications (days)	0	
Application interval between second and	O .	
third applications (days)	0	
Application interval between third and		
fourth applications (days)	0	
Application interval between fourth and fifth		
applications (days) Application interval between fifth and sixth	0	
applications (days)	0	
Application interval between sixth and		
seventh applications (days)	0	
Expected soil half-life (days)	55	
Pesticide octanol/water partitioning		
coefficient (Kow)	14	
Pesticide organic carbon/water partitioning coefficient (Koc)	6	
Pesticide Henry's Law coefficient	0.0000172	
Assumed Soil organic carbon fraction	0.02	
Assumed Soil Density (g/cm³)	1.3	
Soil water volumetric fraction	0.3	
Constants		
R	Universal gas constant	8.314
T	System teperature assumed to be 298 degrees K	298
lipid	fraction of lipid in organism 0.01 (Cobb et al. 1995)	0.01 1
pearthworm MODEL OUTPUTS	earthworm density assumed 1g/cm3	'
WIODEL OUTFUTS	calculated assuming first order kinetics with following	
Soil Degradation rate constant (k)	equation k = ln(0.5)/((half life)(-1))	0.012603
(,	4	
Soil pore space volumetric fraction	=1-(bulk density/partical densitiy of 2.65 mineral soils)	0.509434
	Market Control of the Control of the Control	
	If a Kd was selected on input sheet, that input is referenced here, if Koc was selected then Kd=(chemical	
Kd	Koc)(0.02 assumed fraction of soil organic carbon)'	0.12
	Csoil is the maximum concentration (mg/kg) of chemical	V
	in bulk soil. This is a chemical concentration averaged	
	over a 15 cm soil depth was used to reflect a	
Maximum Concentration in soil (Csoil	concentration across the earthworm occupied area of	4.704044
mg/kg)	soil. Zearthworm is the fugacity capacity of chemical in	1.724341
Zearthworm	earthworms =(lipid)(Kow)(pearthworm)/H	8.14E+03
	Zsoil is the fugacity capacity of chemical in soil =	02
Zsoil	(Kd)(psoil)/H	9.07E+03
	Zwater is the fugacity capacity of chemical in water =	
Zwater	1/H	5.81E+04
Csoil water	Csoil water is the concentration of chemical in soil water = Csoil/Kbw	3.78145
OSOII WALEI	Kbw is the bulk soil-to-water partitioning coefficient =	J. / U 143
Kbw	(psoil)(Kd)+ θ +(ϵ - θ)(Kaw)	0.456
Kaw	Kaw is the air-to-water partitioning coefficient = H/RT	6.94E-09
	Concentration in whole earthworm mg/kg =	
C earthworm	[(Csoil)(Zearthworm/Zsoil)]+[(Csoil water)(Zearthworm/Zwater)]	2.076889
G GartiiwOilli	water/(Zearthworth/Zwater)j	2.070009



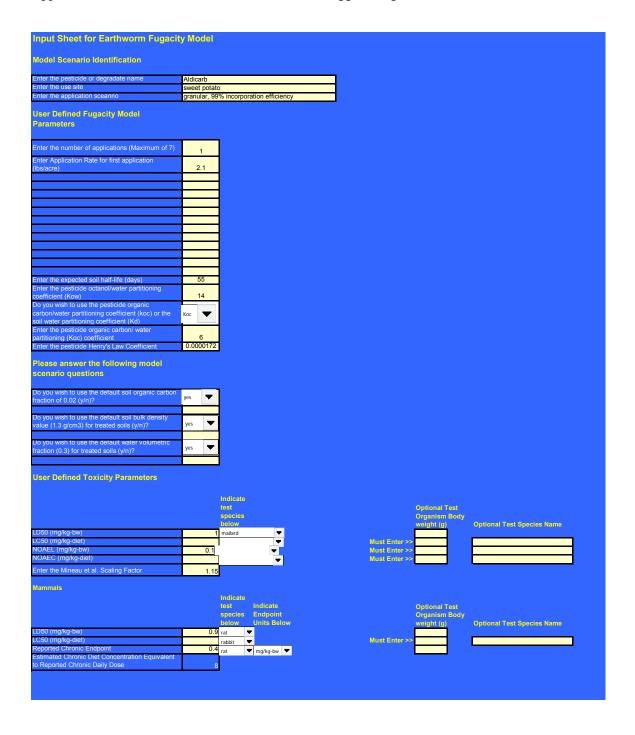
User Defined INPUTS		
Chemical Name	Aldicarb	
Use Site Application scenario	pecan	
Number of applications	granular, 85% incorporation efficiency	
Application Rate for first application	ı	
(lbs/acre)	4.95	
Application Rate for second application		
(lbs/acre)	0	
Application Rate for third application		
(lbs/acre)	0	
Application Rate for fourth application (lbs/acre)	0	
Application Rate for fifth application	Ů	
(lbs/acre)	0	
Application Rate for sixth application		
(lbs/acre)	0	
Application Rate for seventh application		
(lbs/acre)	0	
Application interval between first and	•	
second applications (days)	0	
Application interval between second and third applications (days)	0	
Application interval between third and		
fourth applications (days)	0	
Application interval between fourth and fifth	l e e e e e e e e e e e e e e e e e e e	
applications (days)	0	
Application interval between fifth and sixth		
applications (days)	0	
Application interval between sixth and seventh applications (days)	0	
Expected soil half-life (days)	55	
Pesticide octanol/water partitioning		
coefficient (Kow)	14	
Pesticide organic carbon/water partitioning		
coefficient (Koc)	6	
Pesticide Henry's Law coefficient	0.0000172	
Assumed Soil organic carbon fraction	0.02	
Assumed Soil Density (g/cm³) Soil water volumetric fraction	1.3 0.3	
Constants	0.3	
R	Universal gas constant	8.314
T	System teperature assumed to be 298 degrees K	298
lipid	fraction of lipid in organism 0.01 (Cobb et al. 1995)	0.01
pearthworm	earthworm density assumed 1g/cm3	1
MODEL OUTPUTS		
	calculated assuming first order kinetics with following	
Soil Degradation rate constant (k)	equation $k = ln(0.5)/((half life)(-1))$	0.012603
	4 (1 11 1 11 11 11 11 11 11 11 11 11 11 1	
Soil pore space volumetric fraction	=1-(bulk density/partical densitiy of 2.65 mineral soils)	0.509434
	If a Kd was selected on input sheet, that input is	
	referenced here, if Koc was selected then Kd=(chemical	
Kd	Koc)(0.02 assumed fraction of soil organic carbon)'	0.12
	Csoil is the maximum concentration (mg/kg) of chemical	
	in bulk soil. This is a chemical concentration averaged	
Maniana Camanatation in a sil (Casil	over a 15 cm soil depth was used to reflect a	
Maximum Concentration in soil (Csoil mg/kg)	concentration across the earthworm occupied area of soil.	2.845163
ilig/ng/	Zearthworm is the fugacity capacity of chemical in	2.043103
Zearthworm	earthworms =(lipid)(Kow)(pearthworm)/H	8.14E+03
	Zsoil is the fugacity capacity of chemical in soil =	
Zsoil	(Kd)(ρsoil)/H	9.07E+03
	Zwater is the fugacity capacity of chemical in water =	= 0.1= · 0.4
Zwater	1/H Csoil water is the concentration of chemical in soil water	5.81E+04
Csoil water	= Csoil/Kbw	6.239393
	Kbw is the bulk soil-to-water partitioning coefficient =	J.2JJJJJ
Kbw	(psoil)(Kd)+ θ +(ϵ - θ)(Kaw)	0.456
Kaw	Kaw is the air-to-water partitioning coefficient = H/RT	6.94E-09
	Concentration in whole earthworm mg/kg =	
Coorthwarm	[(Csoil)(Zearthworm/Zsoil)]+[(Csoil	2 426067
C earthworm	water)(Zearthworm/Zwater)]	3.426867



User Defined INPUTS		
Chemical Name	Aldicarb	
Use Site	soybean	
Application scenario	granular, 99% incorporation efficiency	
Number of applications	1	
Application Rate for first application		
(lbs/acre)	3	
Application Rate for second application		
(lbs/acre)	0	
Application Rate for third application		
(lbs/acre)	0	
Application Rate for fourth application		
(lbs/acre)	0	
Application Rate for fifth application		
(lbs/acre)	0	
Application Rate for sixth application	·	
(lbs/acre)	0	
Application Rate for seventh application	·	
(lbs/acre)	0	
Application interval between first and	U .	
• •	0	
second applications (days)	0	
Application interval between second and	•	
third applications (days)	0	
Application interval between third and	_	
fourth applications (days)	0	
Application interval between fourth and fifth		
applications (days)	0	
Application interval between fifth and sixth		
applications (days)	0	
Application interval between sixth and		
seventh applications (days)	0	
Expected soil half-life (days)	55	
Pesticide octanol/water partitioning		
coefficient (Kow)	14	
Pesticide organic carbon/water partitioning		
coefficient (Koc)	6	
Pesticide Henry's Law coefficient	0.0000172	
Assumed Soil organic carbon fraction	0.02	
Assumed Soil Density (g/cm³)	1.3	
Soil water volumetric fraction	0.3	
	0.5	
Constants		
R	Universal gas constant	8.314
T	System teperature assumed to be 298 degrees K	298
lipid	fraction of lipid in organism 0.01 (Cobb et al. 1995)	0.01
pearthworm	earthworm density assumed 1g/cm3	1
MODEL OUTPUTS		
	calculated assuming first order kinetics with following	
Soil Degradation rate constant (k)	equation $k = \ln(0.5)/((half life)(-1))$	0.012603
oon bogradation rate constant (it)		0.012000
Soil pore space volumetric fraction	=1-(bulk density/partical densitiy of 2.65 mineral soils)	0.509434
oon pore space voluments fraction	- 1 (built definity/partioal definity of 2.00 fillional solis)	0.000404
	If a Kd was salected on input sheet, that input is	
	If a Kd was selected on input sheet, that input is referenced here, if Koc was selected then Kd=(chemical	
Kd	Koc)(0.02 assumed fraction of soil organic carbon)'	0.12
Nu		0.12
	Csoil is the maximum concentration (mg/kg) of chemical	
	in bulk soil. This is a chemical concentration averaged	
	over a 15 cm soil depth was used to reflect a	
Maximum Concentration in soil (Csoil	concentration across the earthworm occupied area of	
mg/kg)	soil.	1.724341
	Zearthworm is the fugacity capacity of chemical in	
Zearthworm	earthworms =(lipid)(Kow)(pearthworm)/H	8.14E+03
	Zsoil is the fugacity capacity of chemical in soil =	
Zsoil	(Kd)(psoil)/H	9.07E+03
	Zwater is the fugacity capacity of chemical in water =	
Zwater	1/H	5.81E+04
	Csoil water is the concentration of chemical in soil water	
Csoil water	= Csoil/Kbw	3.78145
	Kbw is the bulk soil-to-water partitioning coefficient =	
Kbw	(psoil)(Kd)+ θ +(ϵ - θ)(Kaw)	0.456
Kaw	Kaw is the air-to-water partitioning coefficient = H/RT	6.94E-09
	Concentration in whole earthworm mg/kg =	J.U .L 00
	[(Csoil)(Zearthworm/Zsoil)]+[(Csoil	
C earthworm	water)(Zearthworm/Zwater)]	2.076889
	// //1	



User Defined INPUTS		
Chemical Name	Aldicarb	
Use Site	sugarbeet	
Application scenario	granular, 85% incorporation efficiency	
Number of applications Application Rate for first application	3	
(lbs/acre)	2.1	
Application Rate for second application		
(lbs/acre)	1.05	
Application Rate for third application		
(lbs/acre)	1.05	
Application Rate for fourth application (lbs/acre)	0	
Application Rate for fifth application		
(lbs/acre)	0	
Application Rate for sixth application		
(lbs/acre)	0	
Application Rate for seventh application	•	
(lbs/acre) Application interval between first and	0	
second applications (days)	30	
Application interval between second and		
third applications (days)	30	
Application interval between third and		
fourth applications (days)	0	
Application interval between fourth and fifth applications (days)	0	
Application interval between fifth and sixth	U	
applications (days)	0	
Application interval between sixth and		
seventh applications (days)	0	
Expected soil half-life (days)	55	
Pesticide octanol/water partitioning coefficient (Kow)	14	
Pesticide organic carbon/water partitioning		
coefficient (Koc)	6	
Pesticide Henry's Law coefficient	0.0000172	
Assumed Soil organic carbon fraction	0.02	
Assumed Soil Density (g/cm³)	1.3	
Soil water volumetric fraction	0.3	
Constants	Universal and constant	0.214
R T	Universal gas constant System teperature assumed to be 298 degrees K	8.314 298
lipid	fraction of lipid in organism 0.01 (Cobb et al. 1995)	0.01
pearthworm	earthworm density assumed 1g/cm3	1
MODEL OUTPUTS		
	calculated assuming first order kinetics with following	
Soil Degradation rate constant (k)	equation $k = \ln(0.5)/((half life)(-1))$	0.012603
Call many among malumostoic forasticus	=1 /bulk density/partial density of 2.65 minoral sails)	0.500404
Soil pore space volumetric fraction	=1-(bulk density/partical densitiy of 2.65 mineral soils)	0.509434
	If a Kd was selected on input sheet, that input is	
	referenced here, if Koc was selected then Kd=(chemical	
Kd	Koc)(0.02 assumed fraction of soil organic carbon)'	0.12
	Csoil is the maximum concentration (mg/kg) of chemical in bulk soil. This is a chemical concentration averaged	
	over a 15 cm soil depth was used to reflect a	
Maximum Concentration in soil (Csoil	concentration across the earthworm occupied area of	
mg/kg)	soil.	1.583699
	Zearthworm is the fugacity capacity of chemical in	
Zearthworm	earthworms =(lipid)(Kow)(pearthworm)/H	8.14E+03
Zsoil	Zsoil is the fugacity capacity of chemical in soil = (Kd)(psoil)/H	9.07E+03
E30II	Zwater is the fugacity capacity of chemical in water =	J.U1 L∓U3
Zwater	1/H	5.81E+04
	Csoil water is the concentration of chemical in soil water	
Csoil water	= Csoil/Kbw	3.473025
Kbw	Kbw is the bulk soil-to-water partitioning coefficient = $(psoil)(Kd)+θ+(ε-θ)(Kaw)$	0.456
Kaw	Kaw is the air-to-water partitioning coefficient = H/RT	6.94E-09
	Concentration in whole earthworm mg/kg =	
	[(Csoil)(Zearthworm/Zsoil)]+[(Csoil	
C earthworm	water)(Zearthworm/Zwater)]	1.907492



User Defined INPUTS		
Chemical Name	Aldicarb	
Use Site	sweet potato	
Application scenario	granular, 99% incorporation efficiency 1	
Number of applications Application Rate for first application		
(lbs/acre)	2.1	
Application Rate for second application		
(lbs/acre)	0	
Application Rate for third application		
(lbs/acre)	0	
Application Rate for fourth application (lbs/acre)	0	
Application Rate for fifth application	·	
(lbs/acre)	0	
Application Rate for sixth application		
(Ibs/acre)	0	
Application Rate for seventh application	0	
(lbs/acre) Application interval between first and	0	
second applications (days)	0	
Application interval between second and		
third applications (days)	0	
Application interval between third and		
fourth applications (days)	0	
Application interval between fourth and fifth applications (days)	0	
Application interval between fifth and sixth	U .	
applications (days)	0	
Application interval between sixth and		
seventh applications (days)	0	
Expected soil half-life (days)	55	
Pesticide octanol/water partitioning coefficient (Kow)	14	
Pesticide organic carbon/water partitioning		
coefficient (Koc)	6	
Pesticide Henry's Law coefficient	0.0000172	
Assumed Soil organic carbon fraction	0.02	
Assumed Soil Density (g/cm³)	1.3	
Soil water volumetric fraction	0.3	
Constants R	Universal gas constant	8.314
T	System teperature assumed to be 298 degrees K	298
lipid	fraction of lipid in organism 0.01 (Cobb et al. 1995)	0.01
pearthworm	earthworm density assumed 1g/cm3	1
MODEL OUTPUTS		
	calculated assuming first order kinetics with following	
Soil Degradation rate constant (k)	equation $k = \ln(0.5)/((half life)(-1))$	0.012603
Soil pore space volumetric fraction	=1-(bulk density/partical density of 2.65 mineral soils)	0.509434
oon pore space voluments maction	- 1 (built definity/partical definity of 2.00 filliferal 30113)	0.000404
	If a Kd was selected on input sheet, that input is	
	referenced here, if Koc was selected then Kd=(chemical	
Kd	Koc)(0.02 assumed fraction of soil organic carbon)'	0.12
	Csoil is the maximum concentration (mg/kg) of chemical in bulk soil. This is a chemical concentration averaged	
	over a 15 cm soil depth was used to reflect a	
Maximum Concentration in soil (Csoil	concentration across the earthworm occupied area of	
mg/kg)	soil.	1.207039
-	Zearthworm is the fugacity capacity of chemical in	0.445.00
Zearthworm	earthworms =(lipid)(Kow)(pearthworm)/H Zsoil is the fugacity capacity of chemical in soil =	8.14E+03
Zsoil	(Kd)(psoil)/H	9.07E+03
	Zwater is the fugacity capacity of chemical in water =	
Zwater	1/H	5.81E+04
• " .	Csoil water is the concentration of chemical in soil water	0.04==:-
Csoil water	= Csoil/Kbw Kbw is the bulk soil-to-water partitioning coefficient =	2.647015
Kbw	(psoil)(Kd)+ θ +(ϵ - θ)(Kaw)	0.456
Kaw	Kaw is the air-to-water partitioning coefficient = H/RT	6.94E-09
	Concentration in whole earthworm mg/kg =	
C - anth	[(Csoil)(Zearthworm/Zsoil)]+[(Csoil	4 450000
C earthworm	water)(Zearthworm/Zwater)]	1.453822

User Delined INPUTS		
Chemical Name	Aldicarb	
Use Site	citrus	
Application scenario	granular, 85% incorporation efficiency	
Number of applications	1	
Application Rate for first application		
(lbs/acre)	24.95	
	24.93	
Application Rate for second application		
(lbs/acre)	0	
Application Rate for third application		
(lbs/acre)	0	
Application Rate for fourth application		
(lbs/acre)	0	
•	O .	
Application Rate for fifth application		
(lbs/acre)	0	
Application Rate for sixth application		
(lbs/acre)	0	
Application Rate for seventh application		
(lbs/acre)	0	
,	O .	
Application interval between first and	•	
second applications (days)	0	
Application interval between second and		
third applications (days)	0	
Application interval between third and fourth		
applications (days)	0	
Application interval between fourth and fifth	·	
	^	
applications (days)	0	
Application interval between fifth and sixth		
applications (days)	0	
Application interval between sixth and		
seventh applications (days)	0	
Expected soil half-life (days)	55	
Pesticide octanol/water partitioning		
	4.4	
coefficient (Kow)	14	
Pesticide organic carbon/water partitioning		
coefficient (Koc)	6	
Pesticide Henry's Law coefficient	0.0000172	
Assumed Soil organic carbon fraction	0.02	
=		
Assumed Soil Density (g/cm³)	1.3	
Soil water volumetric fraction	0.3	
Constants		
R	Universal gas constant	8.314
	•	
T	System teperature assumed to be 298 degrees K	298
lipid	fraction of lipid in organism 0.01 (Cobb et al. 1995)	0.01
pearthworm	earthworm density assumed 1g/cm3	1
MODEL OUTPUTS		
MODEL CON CIC	calculated accuming first arder kinetics with fallowing	
	calculated assuming first order kinetics with following	
Soil Degradation rate constant (k)	equation $k = \ln(0.5)/((half life)(-1))$	0.012603
Soil pore space volumetric fraction	=1-(bulk density/partical densitiy of 2.65 mineral soils)	0.509434
- -	• • • • • • • • • • • • • • • • • • • •	
	If a Kd was selected on input sheet, that input is	
W.J	referenced here, if Koc was selected then Kd=(chemical	0.40
Kd	Koc)(0.02 assumed fraction of soil organic carbon)'	0.12
	Csoil is the maximum concentration (mg/kg) of chemical	
	in bulk soil. This is a chemical concentration averaged	
	over a 15 cm soil depth was used to reflect a	
Maximum Concentration in soil (Csoil	concentration across the earthworm occupied area of	
mg/kg)	soil.	14.34077
mg/kg)		14.54077
7	Zearthworm is the fugacity capacity of chemical in	0.445.00
Zearthworm	earthworms =(lipid)(Kow)(pearthworm)/H	8.14E+03
	Zsoil is the fugacity capacity of chemical in soil =	
Zsoil	(Kd)(psoil)/H	9.07E+03
	•	
Zwater	Zwater is the fugacity capacity of chemical in water = 1/H	5.81E+04
	Csoil water is the concentration of chemical in water = 177	J.U 1 L 1 UT
0		04 44000
Csoil water	= Csoil/Kbw	31.44906
	Kbw is the bulk soil-to-water partitioning coefficient =	
Kbw	$(\rho soil)(Kd)+\theta + (\epsilon-\theta)(Kaw)$	0.456
Kaw	Kaw is the air-to-water partitioning coefficient = H/RT	6.94E-09
	Concentration in whole earthworm mg/kg =	
	[(Csoil)(Zearthworm/Zsoil)]+[(Csoil	
Coordhuurama	W V	
	water)(Zearthworm/Zwater)]	17 27279
C earthworm	water)(Zearthworm/Zwater)]	17.27279